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RECENT FINDINGS REGARDING THE SHIFT FROM DIRECT TO INDIRECT TAXATION WITHIN THE EA-17

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JEL: H20, H24, H29

Keywords: Direct taxes; Indirect taxes; Euro Area

Recent findings regarding the shift from direct to indirect taxation within the EA-17

by

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Abstract

The relative merits of direct vs. indirect taxes have been largely debated since the advent of public finance theory. The current phase of the discussion concerns the relative ability of these two kinds of taxes to creating a more growth-friendly environment. The prevailing view favours indirect taxation, and suggests a shift of the fiscal burden towards indirect taxes, especially those on consumption. We shall be looking only briefly at this last question, as this paper has two other principal aims. The first aim is to evaluate the entity of the said tax shift over the last decade across Euro Area (EA-17) member countries. Our conclusion is that a "true" tax shift has not been as widespread and large as the EU Commission believes. Secondly, among the most widely-debated issues concerning the tax shift, we are going to examine the contrasting short-term impacts on the economy resulting from it, and we shall outline the possible risk that, in the short term, this tax shift may exacerbate the economic slump spreading across the European Union, particularly as an effect of the general adoption of restrictive fiscal policies by almost all member countries.

Keywords**:** Direct taxes; Indirect taxes; Euro Area

JEL Codes: H20, H24, H29

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1. *Introduction**

Broadly speaking, the relative merits of direct vs. indirect taxes have been debated since the beginning of public finance theory (for all: Musgrave, 1969 and Steve, 1976 for historical views: Albi and Martinez Vasquez, 2011, for an updated view, and Tanzi, 2011, for a discussion of tax trends in recent years in the OECD countries). To give just one, clear example, around the middle of the last century, Comprehensive Personal Income Tax (PIT) proved widely successful. However, during the same period, indirect taxes flourished again, as a consequence of the proliferation of VAT. In turn, social security contributions were raised to finance the growth of the welfare state. More or less at the same time, the emergence of the theory of optimal taxation indicated the theoretical conditions under which direct or indirect taxes, or a mix of both, are preferable (see Salaniè, 2011, and Boadway, 2012, for an updated view).

The main issue of the present debate concerns the relative capacity of these two kinds of taxes to create a more growth-friendly environment. The prevailing view is in favour of indirect taxation, and this view has been endorsed by some of the most influential international economic organizations, such as the EU and the OECD. For some years now, they have been suggesting (Johansson *et al*., 2008; OECD, 2010b; EU Commission, 2011, for all) that member countries restructure their tax systems by shifting the fiscal burden from direct to indirect taxation, and in particular from labour to consumption taxes. Moreover, according to the EU Commission's view, the tax shift has already gained ground among the member countries and continues to do so (EU Commission, 2012a). Two sentences summarize this viewpoint: "*Almost all the results support the claim that a move from income taxation to consumption taxation will raise the rate of growth"* (Myles, 2009) and "*There has been a general tendency over the last years to shift taxation from labour and capital toward the taxation of consumption"* (EU Commission, 2011).

The aim of this paper is twofold. Firstly, we shall try to evaluate the extent of the tax shift over the past decade, and whether it has affected all EA-17 member countries. Our conclusion is that "true" (see below) tax shifts have not proliferated, and are not proliferating to the extent that the EU Commission believes. Secondly, we shall examine the contrasting short-term impacts of the tax shift on the economy, which has been disregarded to a certain extent in the literature. We shall outline the fact that, in the short term, the tax shift may exacerbate the depression proliferating

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throughout the European Union, particularly as a result of the general adoption of restrictive fiscal policies by almost all member countries. The rest of the paper is organized as follows. The next section discusses the aggregated trends and forecasts (2000-2014) for the main categories of taxation, in order to ascertain whether the extent of the tax shift has actually affected EA-17 tax trends during the period under consideration. A more detailed analysis of the occurrence of the tax shift in individual EA-17 member countries is subsequently presented. A short discussion follows concerning certain reasons for the tax shift, and its possible weaknesses. Finally, we shall be focusing on the aforementioned short-term macroeconomic effects of the tax shift. The final section concludes.

2. *An evaluation of the tax shift, 2000-2014*

2.1. *Some features of the tax shift and the aggregated tax trends*

As we are all aware, the suggestions for tax reforms that have been proposed in recent years by both the EU and the OECD (EU Commission, 2011; OECD, 2010b, for all) may be summarised by two concepts. The first goes back to the eighties' buzz-word of broadening tax bases and reducing tax rates. The second concerns the proposed shift of the total tax burden from direct to indirect taxes, and in particular from labour to consumption taxation. We shall examine these suggestions briefly later in the paper. For now, we are going to evaluate the statements offered by both EU and OECD, concerning the diffusion of the tax shift throughout the EA-17 and in its individual member States.

The OECD (2010b), by considering the reforms which have been adopted by member countries in recent years, argues that they have been broadly in line with the present recommendations for tax reform. The main gaps consist in the failure to reduce PIT's central rates, and in the failure to raise property and environmental taxes. More specifically, the EU (2011) has examined the last decade and observed that up until the crisis, there were very few cases of tax shifts, most of which were unintentional. However, since the current economic crisis, there has been a generalised proliferation of the tax shift and an increase reliance on indirect taxes, mainly as a result of increased VAT (and excise duty) rates (EU Commission, 2012a).

However, according to the EU Commission once again, these increases in indirect taxes have not necessarily given rise to a "real" tax shift, when not accompanied by a reduction in direct taxes and/or social security contributions. Therefore, it is important to make a distinction here between "Partial Tax Shift - PTS" and "Total Tax Shift - TTS". The former takes place when an

increase (reduction) in total taxes is achieved by means of an increase (reduction) in indirect taxes (direct taxes and/or social security contributions). The latter, on the other hand, results from a change in the composition of the revenue side of the budget, consisting of increases in indirect taxes together with reductions in direct taxes and/or social security contributions. By using these two indicators, we can evaluate the tax trends that have characterized the EA-17 from 2000 to 2014[1], first in terms of aggregated values for the whole EA-17, and then by examining the situations of individual member countries.

To begin with, therefore, we are going to look at the trends at aggregated level for the main tax categories in the EA-17 for the years 2000-2014.

TABLE 1 HERE

Looking at the entire period in question (see Table 1 and Table 4), a TTS away from direct taxes and/or from social security contributions towards indirect taxes does not appear at all, either in terms of percentages of GDP (Table 1, panel a) or as shares of total taxes (Table 1, panel b)[2]. Note in particular that the 2014 figures are rather similar to the initial ones. In order to analyse events in greater detail, we can break down the whole period considered here into three separate stages[3]: from 2000 to 2007, that is, the years prior to the crisis; from 2007 to 2010, that is, the years of the crisis; finally, from 2010 to 2014, the years of due fiscal consolidation.

During the first stage, the changes in the main taxes appear rather limited. During the second stage, there was a reduction in total taxes and direct taxes, a more limited decrease in indirect taxes[4] and, finally, a slight increase in social security contributions. Therefore, there was only a genuine PTS in the case of direct taxes, considering that total taxes fell. The third stage was characterised by the aforesaid recovery, almost to the initial values for direct and indirect taxes, while social security contributions were slightly up from the values witnessed during the crisis years. Due to the rise in total taxes, one can talk about a "real" PTS in the case of indirect taxes only. Nevertheless, the trends of the main taxes were not radically affected by the crisis.

[1] The values for 2013 and 2014 are those forecast by the EU in November 2012 (EU Commission, *Ameco data bank*, 2012b).
[2] The two indicators are displayed together because of the possible bias of each of them: a composition bias for the tax shares, and the effects of GDP changes for the percentages of the taxes. Note, however, that the changes in the two indicators generally go in the same direction. Therefore, in the reminder of the paper we shall refer to GDP percentages only.
[3] This seems the least arbitrary subdivision of the entire period in question.
[4] The relatively larger fall in direct taxes is due to their greater absolute value of elasticity to GDP (see Bernardi, 2011, for all).

2.2. *A more detailed view, by individual member countries, 2000-2014*

Now we are going to consider each EA-17 country separately, across the entire period under consideration and with respect to the different stages into which we have subdivided that period. The overall picture is somewhat different than the one for the aggregated tax trends. The main findings (especially with reference to the said reforms' aims) for the whole period 2000-2014 are as follows (Table 2). Total taxes decreased in ten countries[5] and increased in the remaining ones. Direct taxes decreased in ten countries[6] and went up in the other ones. There were few cases of increases in indirect taxes (only in Finland, Cyprus, France, Estonia and Malta). Finally, and surprisingly, there

TABLE 2 HERE

were increases in social security contributions in a slight majority of cases[7]. Therefore, a TTS only emerged in the countries where the increase in indirect taxes was coupled with a reduction in direct taxes (or social security contributions, in the case of Malta). On the contrary, PTSs, deriving from a reduction in direct taxes, were witnessed in several countries[8]. PTSs driving from a reduction in social security contributions were only seen in the Slovak Republic, Germany, Greece and Spain.

Looking now at the three stages into which we have divided the whole period, a slight reduction in taxes was widespread from 2000 to 2007 (Table 3). Reductions in total taxes prevailed (nine countries)[9], and this trend was more or less mirrored by reductions in direct taxes[10]. Indirect taxes only increased in five countries (the Netherlands, Cyprus, Estonia, Portugal and Malta), while social security contributions fell in nine countries[11]. At a first glance, many changes seem to have been in the direction pursued by the EU/OECD. However, "real" TTSs were only seen in the Netherlands, Malta and Estonia, where a reduction in direct taxes, and/or social security contributions, was coupled with an increase in indirect taxes. "Real" PTSs in the case of direct taxes may be found in five countries (Slovak Republic, Luxembourg, Estonia, Germany and France), and there were four cases of decreases in social security contributions (the Slovak Republic, Luxemburg, Germany and France).

[5] The Netherlands, Finland, the Slovak Republic, Slovenia, Ireland, Luxembourg, Germany, Belgium, Greece and Estonia.
[6] The Netherlands, Finland, the Slovak Republic, Cyprus, Luxembourg, Germany, France, Belgium, Estonia and Spain.
[7] The Netherlands, Finland, Cyprus, France, Belgium, Estonia, Portugal, Austria and Italy.
[8] Finland, the Netherlands, the Slovak Republic, Luxembourg, Germany, Belgium and Spain.
[9] The Netherlands, Finland, the Slovak Republic, Luxembourg, Germany, France, Austria, Cyprus and Greece.
[10] Slovak Republic, Ireland, Luxembourg, Germany, France, Belgium, and Estonia.
[11] The Netherlands, Slovenia, the Slovak Republic, Luxembourg, Germany, Belgium, Estonia, Austria, and Malta.

TABLE 3 HERE

The period 2007-2010 was in the main characterised by the effects of the economic crisis. Direct taxes fell in all countries except for the Netherlands and Luxembourg. Indirect taxes also fell (albeit to a lesser extent) in the majority of countries, with the exception of Estonia, Finland, Germany and Austria. Therefore, there was a TTS in the latter countries (given the fall in direct taxes), while a PTS occurred in the aforementioned cases of reductions in direct taxation[12], and to a greater extent in Greece, owing to the reduction in social security contributions.

If we look, finally, at the period 2010-2014, for which the Commission had forecast a proliferation of total and partial tax shifts, we see a widespread recovery of taxes and a number of tax shifts, albeit generally of a limited entity (see below). An increase in total taxes is estimated and forecasted for all countries (with the exception of Spain and Estonia); however the percentage change in the average value of GDP is close to 1%. Direct taxes only fell in four cases (the Netherlands, Luxembourg, Estonia and Italy). Indirect taxes' share on GDP increased in all but six countries[13], albeit only by an average EU-17 value of 0.4%. On the contrary, social security contributions fell slightly in the majority of countries[14] (EA-17 average: -0. 3%). Again, despite the large number of shifts in the different taxes (and in the sought-after direction), a "real" TTS can only be envisaged in eight countries[15], as a consequence of the increase in indirect taxes, coupled with a reduction in social security contributions (or direct taxes, in the cases of Luxemburg and Italy). There were fewer PTSs than TTSs. In fact, they were only reported in Estonia (direct taxes and social security contributions), France and Malta (indirect taxes), and Spain (social security contributions).

2.3 *TTS and PTS: a synthesis*

A synthesis of TTSs and PTSs may now prove interesting. As we have seen, the taxes' aggregated trends reveal a limited number of PTSs, and no TTSs, during the entire period under consideration. A PTS emerged during the 2007-2010 period due to the reduction in direct taxes, but this was a consequence of the economic downturn brought on by the crisis. Moreover, PTSs are also present in the 2010-2014 period, as a consequence of increases in both indirect and total taxes. To sum up then, we see once again that the changes in taxation implemented during the period in question did not modify the long-term aggregated trends of total and principal taxes.

[12] The Slovak Republic, Cyprus, Ireland, France, Estonia, Portugal, Malta, Spain and Italy.
[13] The Netherlands, the Slovak Republic, Cyprus, Ireland, Estonia and Spain.
[14] Finland, Slovenia, Ireland, Germany, Estonia, Portugal, Austria, Greece, Italy and Spain.
[15] Luxembourg, Finland, Slovenia, Germany, Portugal, Austria, Greece and Italy.

Moving on now to an analysis by individual country (Table 4) covering the entire time span 2000-2014, there were 39 cases of TSs: in particular 15 TTSs and 24 PTSs[16]. This cannot be considered a very large

TABLE 4 HERE

large number, bearing in mind the magnitude of the sample (17 countries for 14 years). Such cases are rather evenly distributed over the three stages of the entire period in question, although there is a certain prevalence of cases during the last sub-period. If we now break these findings down into the main categories of taxation, we see that there was a TTS from direct to indirect taxes in six cases, and from social security contributions to indirect taxes in nine cases (mostly after 2010), albeit of a limited entity on each occasion. This finding would seem to indicate that the process of tax-substitution, away from direct taxes/social security contributions and towards indirect taxes, is driven more by the reduction in social security contributions than by a reduction in direct taxes. Considering PTSs now, direct taxes prevail (in ten cases), albeit largely because of the said cyclical downturn associated with the global crisis. The number of PTSs is far lower in cases of indirect taxes (four) and social security contributions (six).

To sum up, we would conclude that there have been very few "real" TTSs. Moreover, we may presume that some of them have been unintentional and/or induced by the dynamics of the economic cycle. There have also been few PTSs given the magnitude of the entire sample of national cases. Finally, one may see again (Table 3) that both TTSs and PTSs have tended to be of a limited entity[17]. Therefore, the data seem to confirm the EU Commission's previous view that prior to the crisis, any TTSs towards indirect taxes were only episodic and often unintentional. It is also true, again according to the Commission, that cases of increased indirect taxes and reduced social security contributions have risen since the crisis years, although they have generally been of a limited entity, as we have already seen[18], and in several cases they failed to give rise to any "real" PTS or TTS.

[16] These figures do not include the cases of TSs found in the estimates concerning all years within the sample, because of possible overlapping with the subsample estimates.
[17] Note that the changes reported in Tables 2 and 3 refer to percentage variations in tax-to-GDP percentages, and not to linear differences among the latter.
[18] The stability of revenue from indirect taxes is somewhat puzzling, if one considers that in the EA-17, VAT and excise duty rates rose in all but five countries (Belgium, France, Luxemburg, Austria and the Slovak Republic) during the investigated period. From 2008 to 2012, the European standard average VAT rate rose from 19.4% to 21.0%, a change that was mirrored by the implicit tax rate on consumption (EU Commission, 2012a).

2.4. *A short discussion on the tax shift*

Perhaps TSs were more widespread, but the case for raising consumption taxes' share of total taxes is not as straightforward as the EU and OECD, among others, believed it to be. There are a number of debatable issues here which may be summarized, in the extreme, as follows (see Bocconi University, 2011, for an excellent discussion of this topic, which we shall be making a number of references to)[19].

The suggestions made by the EU and the OECD (see once again OECD, 2010b and EU Commission 2011, for all) in favour of a shift in the fiscal burden away from wage income towards consumption[20], are not primarily grounded on the traditional argument concerning the different bases of income and consumption taxation, particularly since the latter does not include capital income, and therefore does not affect savings decisions, and should thus be more favourable to economic growth. Nor are they entirely based on the prescriptions of optimal taxation theory. The arguments in favour of the tax shift are rooted, on the contrary, in the ranking of various distortions[21] and of other hampering effects linked to different kinds of taxes, especially on the supply side and in the long term. These negative effects differently characterize the various kinds of taxation. In particular, there are two main arguments in favour of the suggestion that wage taxes should be replaced by consumption taxes. The first argument states that income tax is more distortive than consumption tax, because it discourages labour supply and demand, being part of the tax wedge. Reducing this wedge may boost labour supply and demand. Furthermore, lower labour costs may enhance economic growth, by stimulating investment. However, caution is required here in two different grounds. First the *total* elasticity of labour supply and demand is generally estimated to be low in European countries, so that the effect of a reduction in the tax wedge on employment may be limited[22], unless the shift is very large, which would then imply a broad restructuring of public services as a result (Bernardi, 2004). The second reservation is that any

[19] See the same source also for a review of the (limited) European studies of the effects of TSs.
[20] This, however, at the global crisis has now exacerbated (EU Commission, 2011, for all).
[21] The degree of distortion and of other hampering effects is derived from analyses of economic agents' behavior, from DAGEs (with endogenous technical progress), and finally, from cross-country estimations. The latter may be found in Johnson, 2008 and in OECD, 2010b.
[22] A great number of studies have been made regarding this topic. However, far fewer analyses have tried to assess the effects of measures adopted in the real word to reduce the tax wedge. Among these analyses, the Bocconi University (2011) study estimates the effects of a large sample of (historically limited) measures to reduce PIT and SSC. The results reveal the limited impact that such measures have had on unemployment, and on the participation and intensity of labour, and no impact on poverty or inequality. Hence, income tax changes designed to sustain the labour supply and/or improve the equity of incomes, may be more effective if they are selective: i.e. low rates for low earners, second jobs, the young and the elderly.

increase in consumption taxes, whether passed on to consumers in the form of higher prices or not, may offset the effects concerning the reduction in the tax wedge[23].

The other argument in favour of a tax shift, is that consumption has a larger base than wage income, due to the presence of certain taxpayers who finance their consumption from sources of income other than wages. This enlargement of the tax base would permit a reduction in tax rates and a subsequent improvement in social welfare[24]. This would be the real efficiency effect of the tax shift; however, it also raises certain rather unwelcome redistributive implications (Bocconi University, 2011). Indeed, the shift would be detrimental to non-wage-earners who do not benefit from income tax reductions (and would be especially painful for those drawing non-indexed social security benefits). An on-off taxation emerges which hits the accumulated wealth (of the old in particular), the market value of which consequently falls. Furthermore, the tax shift is to the detriment of the young and old (who have a greater propensity to consume), thus creating a distortion in inter-general redistribution. Moreover, consumption taxation has been further criticized as being regressive. However, this effect may be mitigated by means of the adoption of subsides for the poor, or by making income tax more progressive (see, for all, Johnson and Myles, 2011, and Kaplow, 2011).

3. *Short-term macroeconomic effects of the tax shift*

As for the short-term macroeconomic effects of the tax shift, two contrasting issues appear to require closer examination. Firstly, when rates of exchange are fixed in an open economy, the shift from labour to consumption taxes may give rise to a kind of “internal devaluation”. Lower labour taxes may be passed on to the costs and prices of domestic production. In turn, VAT is not charged on exports but only on imports and non-traded goods (Bocconi University, 2011, for all). This is equivalent to the devaluation of the rate of exchange, leading to an increase in competitiveness. However, this effect may only be short-lived, as the trade balance is redressed, especially if nominal wages and social benefits are price-indexed. A reduction in indexation could be implemented, but such would be politically unpalatable, socially unfair and may reduce the purchasing power of workers and the elderly. Although its effects are just temporary, the internal devaluation process may trigger aggregate demand, which could prove useful in times of economic recession.

[23] Traditionally, consumption tax rates are not included in the tax wedge, contrary to what has been suggested by a growing body of literature (Cnossen, 2002, for a pioneering view, and OECD, 2010a, for empirical analyses).
[24] On its turn, an enlargement of VAT basis (e.g. to the financial sector) may instead make the tax less regressive, also in the case of the adoption of a single tax rate (see, for all, Johnson and Myles, 2011).

Secondly[25], we should point out that the previous arguments for and against the tax shift have completely disregarded the short-term effects on Keynesian demand in a non-full-employment market situation. Certain recent empirical findings concerning the fact that indirect taxes may or may not be more deflationary than direct income taxes, are of interest here. Before considering such findings, it is worth noting that in the present economic situation within the EU, the so-called "non-Keynesian fiscal effects" (a survey in Gravelle. and Hungerford, 2011) do not seem to be at work (EU Commission, 2010; Pisauro, 2012, and Coenen *et al*., 2012). Furthermore, Keynesian fiscal policies are particularly relevant in times of recession. In this regard, Blanchard and Leigh (2013) report that present fiscal consolidation policies are based on largely underestimated values of the fiscal multipliers[26].

More generally, at present the value of specific Keynesian tax (de)multipliers appears debatable, according to currently available empirical evidence (see, for all, VvAa, 2011 and Blanchard and Leigh, 2013). However, it might well be that the less distortionary taxes (like consumption taxes compared to labour taxes, in the view of the EU/OECD) have a greater deflationary effect on demand. Initial evidence may be found in Table 5 below, which reports a study by the ECB on the short-term multipliers of the various levies. These findings are of a somewhat mixed nature. According to the estimated values of multipliers, a shift from PIT to indirect taxes would be restrictive in five cases, and expansionary in four cases. As for a shift from social security contributions, restrictive effects would be felt in four cases while expansionary effects would be present in six cases. To sum up, the tax shifts we have considered here, away from PIT and social security contributions towards consumption taxes, would be either restrictive or expansionary in roughly the same number of cases. In the EA-17 as a whole, the indirect tax-multiplier - in absolute values - is lower than that of both PIT and social security contributions at time *t*, but is higher than both of them at time *t+1*.

TABLE 5 HERE

Hence, on the basis of this study, one may conclude that a tax shift from PIT and/or social security contributions towards indirect/consumption taxes may actually have deflationary effects on demand in a number of countries and situations, albeit not in all. Like the ECB, other international economic organizations have recently produced large-scale simulations of the effects of fiscal restraints achieved by means of different kinds of tax. The EU Commission (2010) has made a

[25] What follows is largely based on Bernardi (2012).
[26] It is on the basis of similar findings (see also IMF, 2010) that the IMF now recommends lighter fiscal consolidation policies than those adopted in the EU.

number of estimates of the multipliers associated with temporary tax shocks on labour, consumption, property and corporate income taxes. The cases considered were with or without credit constraints, and with or without a Zero Interest Rate Floor (ZIRF). Surprisingly enough, the consumption taxes appear to be the most deflationary under all conditions, followed by labour taxes, property taxes and, finally, corporate income taxes. A similar ranking, for both the EU and the US, has been obtained through the simulation of nine econometric models (Coenen, 2012, Table 6). More mixed results are forthcoming, however, from other recent, more specific studies[27].

TABLE 6 HERE

To conclude an increase in indirect tax should be carefully evaluated in terms of its contrasting macroeconomic effects, ranging from the triggering of aggregate demand by the process of internal devaluation, on the one hand, and on the other hand, the curb on demand due to higher (de) multipliers of indirect taxes. A deflationary macroeconomic impulse might be not a good choice in times of widespread economic restraint, such as that affecting almost the entire EA-17 area, especially as result of such countries' widespread resort to deflationary fiscal policies.

4. *Conclusions*

We began this paper by remembering the fact that for some years now, both the majority of studies and certain highly-influential international organizations, such as the EU and the OECD, suggest that individual countries implement a shift from income (labour) taxes to indirect taxes (VAT). Indirect taxes are considered more growth-friendly, essentially not discouraging the demand and supply of labour[28], and permitting an enlargement of the personal tax basis, which makes it possible to apply lower, thus less distortionary, rates. This process will invariably affect certain people in a negative way, in particular low income tax-payers and those who finance their consumption from non-wage income. Thus some form of compensation should be adopted.

[27] Just to give some examples of a flourishing literature, Heppke - Falk (2006-Bundesbank), using the Blanchard - Perotti SVAR approach, find that in the case of Germany, direct taxes bring down output significantly, while indirect tax revenue shocks have little effect. On the contrary, according to Fair (2011), a consolidation of the US public debt would be less contractionary whether it is achieved through an increase in personal taxes or by means of the introduction of a national sales tax. The opposite is true according to Albi and Martinez-Vazquez (2011), who have found that in a large set of countries (both developed and developing), a 10 per cent increase in the direct-to-indirect tax ratio would reduce economic growth by 0.39 per cent and income inequality by 1 per cent. This last result may seem at odds with the *a priori* hypotheses, but one has to consider the greater efficiency of indirect taxes compared with direct taxes in the developing countries. In the case of Italy, see Caprioli and Momigliano, 2012, who also conclude that consolidation by means of taxation is less costly than when performed through direct expenditure.

[28] However, an increasing number of studies include consumption tax rates in the labour tax wedge, so as to reduce, at least partially, the differences in the effects on the labour market of the two kinds of levy.

According to both the EU and the OECD, the tax shift from labour to consumption, albeit episodic and often unintentional during the early years of this century, has received a new impetus in the aftermath of the current global crisis. The first part of this paper has thus attempted to ascertain the entity of the tax shift before and after the crisis. We have distinguished between "Partial Tax Shift" - PTS (i.e. an increase in consumption taxes or a reduction in labour taxes) and "Total Tax Shift" - TTS (i.e. the replacement of direct taxes or social security contributions with indirect taxes). With regard to the 2000-2014 period (Eurostat forecast values for 2013-2014), we have performed an aggregated analysis of tax trends for the whole EA-17, and a disaggregated, country-by-country analysis. The data seem to confirm the EU Commission's view that "real" tax shifts were only episodic and mostly unintentional before the crisis. The data also confirmed, in line with Commission's though, that the number of cases of increased indirect taxes and reduced social security contributions has risen since the beginning of the crisis. However, the entity of such variations has been generally limited, and in the majority of situations they have not given rise to any "real" ("partial" or "total") tax shift.

Finally, and to conclude, the gains from a tax shift do not appear to be as straightforward as both the EU and the OECD thought. We briefly discussed this topic in general, before evaluating the possible short-term macroeconomic effects of a tax shift, partly disregarded by the literature. Two aspects emerged, both of which require closer analysis. The first is the "internal devaluation" induced by the tax shift, which eliminates taxation on exports but not that on imports. The level of net exports would rise in the short term, but this effect would quickly fizzle out as the trade balance is redressed and wages and prices adjust to the new tax setting. The other aspect to be considered, concerning the tax shift's impact on demand, is given by the differences between the values of the (de) multipliers associated with the various forms of tax. With regard to this specific question, we have surveyed the existing, often conflicting, literature on this issues. The main result seems to be, however, that the greater indirect tax de-multipliers do in fact prevail over those of labour income taxes. Therefore, our final conclusion regarding this last point is that the two macroeconomic effects we have dealt with here need to be carefully evaluated. This in order to avoid the tax shift representing an unsound short-term policy in times of economic depression, like the one now affecting virtually all EA member countries, also as a result of the restrictive fiscal policies widely adopted by such countries.

Appendix A - Sources of EU taxation data

The main source of EU taxation data is the yearly published *Taxation trends in the European Union, (*http://ec.europa.eu/taxation_customs/resources/ documents /taxation/gen_info/ economic analysis/tax_structures/2012/report.pdf). The latest edition of this publication at the time of writing (November 2012) refers to figures for the 1995-2010 period. It offers a general overview of European tax trends, detailed analyses of selected issues, chapters for individual countries which also include a short description of the tax structure and recent reforms, and finally, tables summarising all taxes in all countries, as percentages both of GDP and of total taxation. A second important source is the *Ameco data bank*, (http://ec.europa.eu/economy_finance/db_ indicators/ameco/index_en.htmwhich) which reports annual data on European taxation *ex post* (2001-2012) and forecast (2013-2014), together with a set of the most important macroeconomic aggregates. Only Government budget figures are reported in *Government financial statistics - GFS* (http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance) , the figures from which (available up to 2011) are used for the Excessive Deficit Procedure, and are the same as those reported in Eurostat http://epp.eurostat.ec.europa.eu/portal/ page/portal /government_finance _statistics /introduction. One may find detailed information concerning the institutional features of member countries' taxation systems and recent reforms in the *Eurostat general data bank* -Taxes in Europe - Tax reforms" database (TEDB/TAXREF). Since 2008, a report on specific tax issues has been published in *Monitoring tax revenues and tax reforms in EU Member States* http://ec.europa.eu /economy_finance/publications/european_economy /2012/ee6_en.htm. Finally, episodic taxation data may be found in *European Economy* (http://ec.europa.eu/economy_finance/ publications/european_economy/index _en.htm) and in the European Commission's *The Annual growth survey* (http://ec.europa.eu/europe2020/making-it-happen/annual-growth-surveys/index_en. htm). The data reported in the aforementioned publications are broadly similar, albeit with certain peculiarities, an idea of which is given in Table A1. As far as possible, we have made reference to *Taxation trends in Europe* (EU Commission, 2012a) and to *Ameco data bank* (Ameco, 2012).

TABLE A1 HERE

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Table 1 - Structure of taxes for the whole EA-17 as percentages of GDP (a) and of total taxation (b) - 2000-2014

	2000	2007	2010	2010	2011	2012	2014
(a)	*EU Commission, 2012a*			*Ameco data bank*			
Direct taxes	12.6	12.9	11.8	11.5	12.0	12.8	12.6
Indirect taxes	13.2	13.3	12.8	12.7	12.9	13.2	13.1
Social security contributions	14.3	13.9	14.3	14.4	14.4	14.6	14.6
Total	40.0	40.0	38.9	38.6	39.3	40.7	40.3
(b)							
Direct taxes	31.5	32.3	30.4	29.8	30.0	31.5	31.3
Indirect taxes	33.0	33.3	33.2	32.9	34.3	32.4	32.5
Social contributions	35.8	34.8	36.8	37.3	36.6	35.9	36.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: EU Commission, 2012a and Ameco data bank, 2012. 2013 and 2014 are forecast values (November 2012).

Table 2 - Structure of revenue by countries. Percentage changes in GDP percentages. The EA-17 countries, 2000-2014

	Direct taxes	Indirect taxes	Social security contributions	Total taxes		Direct taxes	Indirect taxes	Social security contributions	Total taxes
	2000-2014					2000-2014			
NL	-10.8	-3.2	7.1	-1.5	BE	-3.4	-5.9	4.3	-2.2
FI	-23.4	7.2	10.1	-5.9	EE	-10.4	13.0	0.9	2.6
SK	-20.3	-23.2	-7.8	-16.4	PT	12.5	-1.5	15.0	7.1
CY	-3.6	13.1	21.2	9.0	AT	3.0	-4.6	1.4	0.0
SI	1.4	-7.6	4.9	-1.1	EL	1.0	-12.7	-1.9	-5.2
IE	1.5	-17.8	0.1	-6.7	IT	4.2	-1.3	15.1	5.1
LU	-4.0	-8.6	10.9	-1.8	MT	51.1	8.9	-3.1	20.1
DE	-4.6	-0.9	-7.6	-4.6	ES	-13.2	-11.7	-4.2	-8.2
FR	-1.6	1.3	6.2	2.7	EA-17	-3.8	-3.0	1.4	-1.5

Source: Ameco data bank, 2012. 2014 is a forecast value (November 2012).

Table 3 - Structure of revenue in individual EA-17 countries: 2000-2007/ 2007-2010/ 2010-2014. Percentage changes in GDP percentages

	EU Commission, 2012a									*Ameco data bank 2012*			
	2000-2007				*2007-2010*				*2000-2010*	*2010-2014*			
	Direct taxes	Indirect taxes	Social security contributions	Total taxes	Direct taxes	Indirect taxes	Social security contributions	Total taxes	Memo: labour tax wedge	Direct taxes	Indirect taxes	Social security contributions	Total taxes
	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-
NL	1.7	4.0	-12.3	-1.2	0.0	-3.8	4.4	0.3	-8.0	-1.0	-0.1	1.7	0.6
FI	20.2	-4.3	0.0	-4.2	-9.6	1.5	5.0	-2.1	-6.7	0.6	0.8	-0.1	1.4
SK	-17.6	-8.8	-17.0	-4.8	-12.9	-8.8	5.1	-4.1	-6.1	0.6	-0.5	0.1	0.1
CY	23.2	53.3	13.6	-10.2	-19.6	-16.6	20.0	-11	-4.8	0.9	-0.3	0.3	1.6
SI	23.0	-5.1	-3.5	0.4	-8.8	-2.0	10.8	0.8	-4.1	2.1	0.8	-0.1	0.0
IE	-4.5	0.0	13.6	0.0	-16.4	-13.3	16.0	-9.9	-4.0	3.1	-0.3	-1.4	1.2
LU	-12.0	-2.9	-1.0	-3.4	9.1	-5.6	9.1	-3.9	-4.0	-0.4	0.7	0.5	0.9
DE	-6.2	0.0	-11.1	-2.6	-8.2	0.9	2.0	-1.6	-2.6	1.2	0.3	-0.2	1.2
FR	-4.0	-2.5	1.2	-0.8	-8.3	-1.9	3.7	-2.1	-1.9	2.0	0.8	0.5	3.6
BE	-2.9	-2.2	-2.2	2.4	-4.1	0.0	4.4	0.0	-1.8	1.3	0.0	0.3	1.9
EE	-3.9	9.8	-3.7	0.4	-8.1	5.2	24.8	-9.6	-1.2	-0.1	-0.2	-1.3	-1.6
PT	4.4	9.6	6.3	1.2	-6.3	-8.1	5.9	-4.0	-0.4	2.1	0.4	-0.1	1.7
AT	1.5	-6.6	-4.1	-1.3	-5.2	3.5	5.6	0.7	0.1	1.1	0.6	-0.2	0.6
EL	6.0	-7.1	6.7	-2.0	-8.4	-6.1	-2.7	-4.9	0.1	2.0	0.6	-1.3	2.2
IT	4.2	-1.3	16.4	1.2	-2.0	-4.7	4.7	-0.9	0.1	-0.4	1.2	-0.1	1.6
MT	47.8	23.6	-7.8	5.1	-1.5	-8.6	1.7	-4.3	1.1	0.6	0.2	0.2	2.1
ES	27.4	-0.8	1.7	3.0	-26.7	-10.9	0.8	-14	1.6	0.2	-0.4	-0.6	-0.5
EA-17	-0.8	-1.5	-4.1	-2.2	-8.5	-3.0	2.9	-2.8	-3.6	0.9	0.3	-0.1	1.1

Source: EU Commission 2012a and Ameco data bank. 2014 is a forecasted value (November 2012).

Table 4 - Partial and total tax shifts, 2000/2007- 2007/2010-2010/2014: in the EA-17 area, and in individual member countries

	2000-2007		2007-2010		2010-2014	
	Partial	*Total*	*Partial*	*Total*	*Partial*	*Total*
(a) *Aggregated*						
Direct taxes			X			
Indirect taxes					X	
Social security contributions						
(b) *By countries*						
Direct taxes	SK, LU, DE, FR		FR, EE PT, MT, SK, CY, IE, ES, IT	FI, DE, EE, AT	EE	
Indirect taxes	EE, PT	NL, EE, MT		FI, DE, EE, AT	FR, MT	FI, SI, DE, IT PT, AT, EL, LU
Social security contributions	AT, SK, LU, DE	NL, EE, MT	EL		EE, ES	FI, SI, DE, IT PT, AT, EL, LU

Source: Our own calculations based on Eurostat, 2012a and on Ameco data bank, 2012. 2014 is a forecast value.

Table 5 - Fiscal multipliers: effects on GDP of tax increases by/of 1 percentage point of GDP. Euro Area and selected countries. Year 1 *(t*) and year 2 (*t+1*).

	Belgium		*France*		*Germany*		*Italy*		*Portugal*		*Spain*		*Euro Area*	
	t	*t+1*	*t*	*t+1*	*t*	*t+1*	*t*	*t+1*	*t*	*t+1*	*t*	*t+1*	*t*	*t+1*
Personal Income Tax	-0.15	-0.23	-0.21		-0.45	-0.91	-0.18	-0.45	-0.27	-0.67	-0.35	-1.02	-0.42	-0.63
Indirect taxes	-0.15		-0.53		-0.76	-0.53	-0.39	-0.52	-0.26	-0.41	-0.37	-0.65	-0.18	-0.76
Social security contributions	-0.01	-0.18	-0.2		-0.85	-0.88	-0.1	-0.51	-0.18	-0.44	-0.52	-1.03	-0.2	-0.62
	Qualitative effects on GDP of tax shifts to indirect taxes													
from PIT	=	n.a.	-	n.a.	-	+	-	-	=	+	-	+	+	-
from social contributions	-	n.a.	-	n.a.	+	+	-	-	-	+	+	+	+	-

Source: ECB, 2004.

Notes: Averages of national, EU (QUEST) and OECD (INTERLINK) models. Our own calculations.

Table 6 - First year multipliers of expenditure and taxes

Expenditure and taxes	US	EU
Public consumption	1.55	1.52
Public investment	1.2	0.9
Targeted transfers	1.59	1.48
General transfers	0.42	0.29
Consumption taxes	-0.61	-0.66
Corporate tax	-0.24	-0.15
Labour taxes	-0.23	-0.53

Source: G. Coenen. *et al.*, 2012.

Table A1- Data on EA-17 taxation from different sources: an example. Percentages of GDP

	Direct taxes		Indirect taxes		Social security contributions		Total	
	2010	2011	2010	2011	2010	2011	2010	2011
EU Commission 2012a								
Arithmetic	11.2	-	13.1	-	12.1	-	36.4	-
Weighted	11.8	-	12.9	-	14.2	-	38.9	-
AMECO	11.5	11.9	12.8	13.0	14.4	14.5	38.7	39.4
EUROSTAT - GFS	11.9	12.1	12.7	12.8	15.6	15.8	40.2	40.7

Sources: see text.